DOCUMENT RESUME

ED 210 902 FL 012 637

AUTHOR French, Michael P.
TITLE A Rose by Any Color: A Comparison Analysis of Case Grammar Labels.
PUB DATE 26 Jun 81
NOTE 43p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Case (Grammar); *Grammar; Nouns; *Semantics; *Syntax; Tagmemic Analysis; Transformational Generative Grammar

ABSTRACT

This paper presents an analysis of the development and application of Charles Fillmore's case system (1968). The system is designed to determine semantic relationships (primarily of nouns) in linguistic deep structure. An historical overview of traditional grammar case labels and reviews of several other case systems are included. The appendix presents terms, definitions, and examples of several case systems for comparison. The strength of case theory is realized in the fact that there is not one "correct" or all inclusive case system. Rather, case theory is adaptable to a variety of conditions and analyses. Case roles are applicable to a variety of semantic structures and, therefore, case grammar theory proves valuable in areas from linguistic analysis to composition teaching. (Author/JK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED210902

A Rose by Any Color

A Comparison Analysis of

Case Grammar Labels

Submitted to:

Professor Dale D. Johnson

University of Wisconsin at Madison
Curriculum and Instruction 806
Contributions of Psychlinguistics
to Reading

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Michael P. French
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Submitted by:

Michael P. French

June 26, 1981

FL 012637

Running head: Case Labels

Abstract

In "The Case for Case," Charles J. Fillmore presented his argument for a case system to determine semantic relationships (primarily of nouns) in linguistic deep structure. This paper presents an analysis of Fillmore's system- its development and application to other areas of linguistic study. An historical overview of traditional grammar case labels is included as well as reviews of several other case systems. The paper's appendix presents several case systems (terms, definitions, and examples) for comparison. The paper does not attempt to present a unique set of case labels.

A Rose by Any Color
A Comparative Analysis of
Case Grammar Labels

What's in a name? That which we call a rose
By any other name would smell as sweet.

(Romeo and Juliet; II, ii, 43-44)

Since Charles Fillmore's "The Case for Case" first appeared in 1968, case grammar has been 1) the basis for analysis in discourse processing (Grimes, 1975; Meyer, 1975; and Frederiksen, 1975), 2) applied to the study of memory and comprehension (Lindsay and Norman, 1972; and Pearson and Johnson, 1978), 3) the foundation of pedegogical grammars (Chaika, 1972; Lamb, 1977; Fink, 1977), 4) applied to tagmemic analysis (Cook, 1969; Hale, 1974; Pike, 1977), and 5) applied to analysis of developing language in children (Brown, 1975).

Case grammar is an attempt to bridge the gap between syntax and semantics; that is, the relationships between grammatical form and grammatical meaning. In originally presenting a need for a designated set of case categories, Fillmore attempted to develop a set of case labels to define "semantically relevant syntactic relationships involving nouns and structures that contain them." (Fillmore, 1968, p. 5) Since Fillmore, others (Chafe, 1970; Chaika, Grimes, and Frederiksen) have adapted his set of case labels.

It is not the purpose of this paper to refute Fillmore or those that followed. Nor is it the purpose of this paper to present a revised

set of case labels. Rather this paper will present an analysis of the development and adaptations of case grammar.

Organization

The first part of this paper will present traditional definitions of grammar and case as well as an overview of traditional syntax involving nouns. The second part will deal with Fillmore's original set of case labels including the listing and definition of these labels. A case grammar definition of case will be included here. An analysis of selected variations of Fillmore's grammar will follow. In this third section, case labels of others than Fillmore will be analyzed. This section will also include the role of case grammar in tagmemics. The final section will deal with adaptations of case grammar as applied to discourse comprehension and comprehension. This section will include an overview of the work of Lindsay and Norman, Grimes, Meyer, and Frederiksen.

Traditional Grammar and Case

This section will present an overview of traditional concepts of grammar, including: 1) a definition of grammar, 2) a definition of case (from both the traditional perspective and that of case grammar), 3) an overview of traditional noun roles, 4) an overview of noun roles in structural grammar, and 5) the relationship of prepositions and prepositional phrases to case roles and case relations.

Grammar defined

Grammar has been defined by Nelson Francis as "the set of formal patterns in which words of a language are arranged in order to convey

larger meanings." (in Lamb, p. 3) Further, he sees grammar as a means for description, analysis and formalization of formal language patterns. Grammar can also be seen as a set of expectations for speakers. . .an etiquette for language and usage.

In the introductory section in Essentials of English Grammar (1933) Jesperson addresses the question, "What is grammar?" For Jesperson, grammar is more than the structure of language. It implies more than prescriptive rules. . .it also must include elements of description and explanation. (p. 20)

Case grammar has specific adaptations to the elements of description and analysis of language. . .both spoken and written. As indicated in the introduction to this paper, case grammar is an attempt to bridge the gap between grammatical form (Francis' set of formal patterns) and grammatical meaning (the semantic structure of language).

Case defined

In Descriptive English Grammar (1950), House and Harmen define case as the grammatical relation of a noun or pronoun to other words in a communication. Historically; in Old English, for example, case form determined the function of a noun or pronoun. In his introduction to Case Systems for Natural Languages (1975), Bertram C. Bruce comments on the historical notion of case:

> The notion of "case" has been used to refer to many different concepts. Traditionally, it has meant the classification of noun forms according to their "inflection". In languages such as Greek, inflectional forms of a noun indicate gender and

> number. In addition, they give information about the syntactic role to noun plays in the sentence. This latter distinction was recognized and named "case" by Stoic philosophers over two thousand years ago. (p. 4)

In his On Case Grammar, John M. Anderson uses the term "case" to imply both inflectional categories as well as semantic distinctions associated with these cases. Thus, one must differentiate between case roles (grammatical roles such as subject, object, etc.) and case relations (the paticular semantic role fulfilled by a noun or noun phrase). In The Structure of English (1952), Charles Fries addressed the inappropriateness of traditional role labels in grammatical analysis:

> . . .it is necessary to insist that such terms as "subject," "indirect object," "direct object" have no relation to the actual facts of a situation in the real world. As grammatical terms they are simply names for a particular formal structure, . . . (p. 175)

Therefore, in regard to case grammar, it is necessary to differentiate between surface case and deep case. As defined in Bruce, surface case is "a syntactic category for noun groups based on such things as word endings, word order, and prepositions." (p. 29) Deep case is "a binary relation which specifies an event regardless of the surface realization of that event description as a sentence or noun phrase." (p. 19) In regard to the formal definition of deep case, Bruce proposes several alternatives for a rule for distinguishing deep cases:

1. A case is a property which must be used to distinguish different senses of a word.

2. A case is a property which must be used for unique specifications of an event.

3. A case is a property whose value needs to be known--even if it is not explicitly specified.

4. A case is a property whose value is usually specified for a given type of event.

5. A case is a property which is particulary relevant to the domain of discourse. (Bruce)

Fillmore, like Anderson and Bruce, differentiates between the notion of deep structure cases and surface cases. Fillmore quotes Blake's 1930 usage of case in The Case for Case. In his article, Fillmore uses the term case to "identify the underlying syntactic-semantic relationship" and case form to "mean the expression of a case relationship in a particular language--whether through affixation, suppletion, use of clitic particles, or constraints of word order." (p. 21)

Traditional noun roles

In regard to surface case, as defined in the preceeding section, nouns have traditionally held three case forms: nominative or subjective, objective, and possessive. The many uses of these cases in traditional grammar are illustrated in Table 1.

Insert Table 1 about here

A closer analysis of any of the syntactic categories in Table I shows Fries' complaint to be valid. Consider the following examples of

subjects:

(1) The *car* was going fast.

(2) The *movie* has ended.

(3) The *dog* bit the boy.

(4) The *boy* lost his dog.

In each of the above sentences, the italicized word is a "subject." Yet, to use Fries' wording, in "real world meaning" there is a substantial difference between *car*, *movie*, *dog*, and *boy*. It was this very ambiguity that Fries proposed to correct in his structural grammar.

Noun roles in Fries' structural grammar

In contrast to traditional grammars, Fries attempted to introduce a higher level of meaning to the notion of "subject," "direct object," and "indirect object." As such, his grammar attempts "to find formal characteristics by which to identify each unit and structure [subject, object, indirect object]. . .(as well as) what meanings these formally identified structures signal." (p. 175)

These structures are illustrated in Table 2.

Insert Table 2 about here

This dimension of meaning in subjects and objects is an important link between traditional and case grammars. A second important link is the identification of prepositional relations--the relationship of the traditional object of the preposition (and the whole prepositional phrase)

to the meaning of a whole sentence. This will be the focus of the following section.

Prepositional case relations

The preposition as a word class or part of speech belongs to the thought-connective group. (Funk & Wagnalls Company, 1953) Other types of words in this class are conjunctions, relative pronouns, and adverbs. The function of the preposition is that of a connective between an antecedent and an object. For example:

(5) The *canoe* floated *down* the *river*.

canoe	antecedent of river
down	preposition
river	object of the preposition

A significant number of relationships can be expressed through the use of prepositional phrases. These are illustrated in Table 3.

Insert Table 3 about here

In sentence 5, the phrase, *down the river* can be considered both destination and direction according to Table 3. It should be noted that many prepositional relations become formal cases in the case grammars of Fillmore and others. . .as will be clearly shown later in this paper.

Fillmore's Case Grammar

This section will deal with the development of Charles Fillmore's case grammar. Included in this section will be a comparison of Fillmore's view of deep structure to that of transformational grammar; e.g. that of

Chomsky. The original case categories proposed by Fillmore will also be included in this part.

Transformational grammar--an overview

Since Fillmore's case grammar is a "substantive modification to the theory of transformational grammar" (Fillmore 1968, p. 21), it would seem that an overview of this transformational theory is warrented here. The transformational grammar of Chomsky is composed of three main components:

1. The syntactic component which includes a base grammatical component and a transformational component.
2. The semantic component
3. The phonological component (Moskey, 1979)

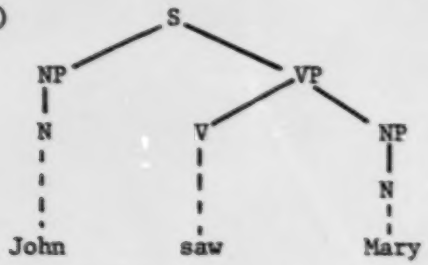
In his 1957 work Syntactic Structures, Chomsky stated that "linguistic levels (of) phrase structure and transformational structure are required for the description of natural languages." (p. 106) Here, then, is perhaps the goal of Chomsky's grammar:

> We can greatly simplify the description of English and gain new and important insight into its formal structure if we limit the direct description in terms of phase structure to a kernal of basic sentences (simple, declarative, active, with no complex verb or noun phrases), deriving all other sentences from these (more properly, from the strings that underlie them) by transformation, ...(107)

These strings represent the deep structure of the sentence. This deep structure is primarily syntactic. Consider the following example from Moskey:

(6a) John saw Mary

(6b)



Note: Tense and aspect have been omitted for simplification. (Moskey, p. 6)

The notation in 6b is the "deep structure" of 6a. As such categorical information is labeled as noun phrase or verb phrase, etc. Again from Moskey:

> The deep structure determines both the relational, or functional, information (e.g. subject and object) and the categorical information in the sentence. (p.6)

Fillmore challenges this notion of deep structure. Chomsky's deep structure can only be defined in terms of syntactic relations. In Fillmore's model the deep structure is more semantic than syntactic.

Fillmore's model of case grammar

In The Case for Case, Fillmore stated:

> I have suggested that there are reasons for questioning the deep structure validity of the traditional division between subject and

> predicate, a division which is assumed by some to underlie the basic form of all senterces in all languages. (p. 17)

In his challenge of transformational deep structure Fillmore called for different types of deep structure units which would replace the traditional labels of "subject" and "object". His labels would be grounded in semantics rather than syntactics. These deep structure units, or labels, became Fillmore's cases. It would be the cases that would determine the "subjectivity" or "objectivity" of sentence parts.

In Fillmore's first writings, six cases were proposed:

Agentive	The case of the typically animate perceived instigator of the action identified by the verb.
Instrumental	The case of the inanimate force or object causally involved in the action or state identified by the verb.
Dative	The case of the animate being affected by the state or action identified by the verb.
Factitive	The case of the object or being resulting from the action or state identified by the verb, or understood as part of the meaning of the verb.
Locative	The case which identifies the location or spacial orientation of the state or action identified by the verb.
Objective	The semantically most neutral case, the case of anything representable by a noun whose role in the action or state identified by the verb itself; conceivably the concept should be limited to things which are affected by the action or state identified by the verb. The term is not to be confused with the notion of direct object, nor with the name of the surface case synonymous with accusative. (Fillmore, 1968, pp. 24-25)

In proposing these case categories, Fillmore further notes that none of his case labels can (or should) be interpreted as being the same as traditional labels such as subject and object, the surface structure relations. Consider the following examples from Fillmore's text (p. 25):

(7)	*John* opened the door.	*Agent*
(8)	The door was opened by *John*.	*Agent*
(9)	The *key* opened the door.	*Instrumental*
(10)	John opened the door with a *key*.	*Instrumental*
(11)	John used the *key* to open the door.	*Instrumental*
(12)	*John* believed that he would win.	*Dative*
(13)	We persuaded *John* that he would win.	*Dative*
(14)	It was apparent to *John* that he would win.	*Dative*
(15)	*Chicago* is windy.	*Locative*
(16)	It is windy in *Chicago*.	*Locative*

From the examples given here, one can see that various traditional roles; e.g. subjects, direct objects, objects of the preposition, may have the same semantic deep structure and therefore hold the same case label in Fillmore's model. This is not to imply that Fillmore does not acknowledge the role of subjects in his early writings. The following is from A Case for Case:

> Every English sentence has a surface subject, if only formally so. For most combinations of cases there is a 'preferred' or 'unmarked' subject choice; for some there is no actual choice--the subject is uniquely determined. In general the 'unmarked' subject choice seems to follow the following rule:

> If there is an A [agent], it becomes the subject; otherwise, if there is an I [instrument], it becomes the subject; otherwise the subject is the O [object].

Later, Fillmore's list of cases evolved to include a wider range of semantic events (Fillmore, 1971 - in Bruce, p. 32):

Agent	The instigator of an event.
Counter-Agent	The force or resistance against which the action is carried out.
Object	The entity that moves or changes or whose position or existence is in consideration.
Result	The entity that comes into existence as a result of the action.
Instrument	The stimulus or immediate physical cause of an event.
Source	The place from which something moves.
Goal	The place to which something moves.
Experiencer	The entity which recieves or accepts or experiences or undergoes the effect of an action.

These original case systems provided the impetus for many other systems involving case labels. The remainder of the paper will discuss some of these systems.

Case Grammar Adaptations - Part I

Fillmore's notions of case labels have been adapted by others in both linguistics and teaching. In this section, the case system of Wallace Chafe will be reviewed. The pedegogical aspects of case grammar will be discussed in relation to Elaine Ostrach Chaika's dissertation, Models of Grammar and the Pedegogical Problem. And finally, part I will conclude with an overview of the role of case grammar in tagmemics.

Wallace Chafe

In Meaning and the Structure of Language, Chafe agrees with Fillmore that there is a clear difference between semantic structure and its corresponding surface structure. However, Chafe adapts Fillmore's theory in two main areas: 1) the centrality of the verb in the meaning of the sentence and 2) the fundamental distinction--essentially semantic--between sentence elements which convey old and new information. This section will deal primarily with Chafe's first adaptation. . .the centrality of the verb in semantics.

Chafe identifies seven cases (which he refers to as noun-verb relations): 1) *patient*, 2) *agent*, 3) *experiencer*, 4) *beneficiary*, 5) *instrument*, 6) *complement*, and 7) *location*. Note: The reader should refer to Appendix A for an overview of various case systems compared to Fillmore. Chafe is included in this comparison.

Chafe's primary thesis is that each sentence is built around a predicative element. This element, the verb, is usually accompanied by nominal elements, nouns. In his thesis, Chafe possits that:

> . . . the total human universe is dichotomized initially into two major areas. One, the area of the verb, embraces states (conditions, qualities) and events; the other, the area of the noun, embraces "things" (both physical objects and reified abstractions). Of these two, the verb will be assumed to be central and the noun peripheral. (p. 96)

The role of the verb in the assignment of Chafe's case labels

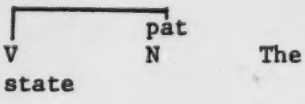
can be seen in the following illustration. Consider the following example sentences taken directly from Chafe's text:

(17) The wood is dry.

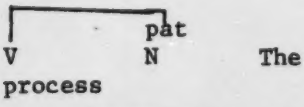
(18) The wood dried.

(19) Michael dried the wood.

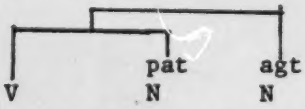
Sentences 17 and 18 illustrate the *patient* relationship to the verb. That is, the relationship illustrates that which is in a given state, "dryness." Sentence 18 also illustrates what Chafe refers to as process. Thus the noun-verb relation, *patient*, can specify both state and process. Sentence 19 illustrates both action and process. Here, "Michael" performs the action and "wood" undergoes a process. As case labels, therefore, "Michael" is the *agent* and "wood" remains *patient*. (As in Fillmore, the assignment of noun-verb relations bears no similarity to traditional surface labels). Chafe diagrams these sentences as follows:



(17a) The wood is dry.



(18a) The wood dried.



(19a) Michael dried the wood.

Chafe's adaptation of case labels in primarily for linguistic analysis. The following section will view case grammar as a pedegogical tool.

Elaine Ostrach Chaika

In her 1972 dissertation, Chaika attempts to "construct a coherent,

unified grammar of English in light of the exigencies of the classroom." (p. 1) In presenting her model of grammar, Chaika possits four conditions which must be met by a "classroom" grammar:

(a) It must be internally consistent.

(b) It must conform to the observable behavior of the object of the study. . . the English language.

(c) It must be a usable tool for analysis.

(d) It must provide clear notation for presentation to the learner. (p. 3)

Chaika differs from Fillmore and Chafe in her fundamental use of case labels. Fillmore and Chafe use case relations to describe semantic deep structures. Chaika proposes nine cases for the analysis of "the systematic surface structure behavior in English." (p.7). These are as follows: 1) *agent*, 2) *causative*, 3) *nominal*, 4) *locative*, 5) *instrumental*, 6) *object*, 7) *range*, 8) *dative*, 9) *beneficiary*. (See Appendix A)

In Chaika's model, a case marked noun is defined as "one which may fill one of the four sentential positions directly dominated by the sentence or verb phrase." (p. 6) These positions correspond to subject, indirect object, direct object, and range--the limits or extent of the verb.

In the surface representation, the subject position can be filled by nouns of various cases, but other positions; e.g. the indirect object, are more restricted. This position can only be filled by the *dative* or *beneficiary* as illustrated below:

(20) He gave Mary a book. *Dative*

(21) She made Tom a cake. *Beneficiary*

It is not the intent of this paper to prove or disprove this model. It is included in the present discussion in that it differs in

in its view of surface structure and case. However, in her summary of the model, Chaika noted that students who were exposed to this type of grammar expressed three positive aspects of the model:

1. They felt that the lessons were revealing.
2. It (the grammar) gave them insights into language.
3. It helped them with their writing.

As a teaching grammar, Chaika's model is more prescriptive than analytic. The following section will deal more with linguistic analysis.

Case grammar and tagmemic analysis

In Introduction to Tagmemic Analysis, Walter Cook, S.J. defines tagmemic analysis as "a set of procedures for the description of language, with a basic grammatical unit called the *tagmeme* mapped into string-type constructions located at specific levels in the grammar." (1969, p. 13) This system of grammatical levels is illustrated in the following table:

Insert Table 4 about here

Case labels have been particularly useful at the clause level.

Cook differentiates between nuclear clauses level tagmemes and peripheral clause level tagmemes. The former includes *subject, predicate, predicate,* and *object tagmemes*. The latter includes *location, temporal, manner,* and *introducer tagmemes*. These are defined as follows:

Insert Table 5 about here

In Grammatical Form and Meaning (1971), John Platt cites Becker's model of a tagmemic unit. This model consists of four divisions: 1) Grammatical Form, 2) Grammatical Meaning, 3) Lexical Form, and 4) Lexical Meaning. In his model, case labels are primarily used in the filling of the Grammatical Meaning slot.

In his dissertation, A Generative Description of the English Subject Tagmeme, Becker identifies 11 grammatical meanings (adapted from Fillmore) which fill the subject slot. These are illustrated in Table 6.

Insert Table 6 about here

Austin Hale proposes a nine box model of the tagmeme. Within this model "box 4" is filled by role. As did Becker, Hale begins with Fillmore's cases to fill this box. However, Hale does not except Fillmore's case system as written. His primary arguement is in the requirement of animateness and inanimateness in defining some case roles. He argues that animateness is more properly a condition of concept, "box 5". (Hale, 1974)

Kenneth Pike, a leading scholar in the field of tagmemics defines a tagmeme as a constituent of a construction seeen from the point of view of its four general features: slot, class, role, and cohesion. Thus in the sentence, *Bill hit Joe*, the tagmemes for *Bill* and *Joe* are seen as follows:

Bill	Slot:	Subject
	Class:	Proper noun
	Role:	Actor
	Cohesion:	Singular, masculine
Joe	Slot:	Adjunct
	Class:	Proper noun
	Role:	Undergoer
	Cohesion:	Singular, masculine (35)

Obviously, there is a great deal more to be said about tagmemic analysis. The main point to be made here is that case labels again have been adapted for a particular use. In this case, linguistic analysis. The next part will deal with specific adaptations of case systems to discourse processing.

Case Grammar Adaptations - Part II

This section will deal with selected applications of case labels to areas of psycholinguistics. Specifically, included here will be a discussion of Lindsay and Norman's use of case roles in describing memory processes. Also, the impact of case grammar on Grime's analysis of discourse phenomena will be reviewed. The third adaptation reviewed will be that of Frederiksen who used case labels in his model of knowledge structure.

Peter Lindsay and Donald Norman

In Human Information Processing, Linsday and Norman address the problem of representing an event in the memory system. Borrowing from transformational grammar, they differentiate between surface structure (what is said) and deep structure. In their analysis of deep structure, unlike Fillmore and others discussed to this point, they include roles involving verbals (*action*), adverbials (*time* and *truth*), adjectivals (*quality*), and conjunction (*conditional*). Their entire case system is illustrated below:

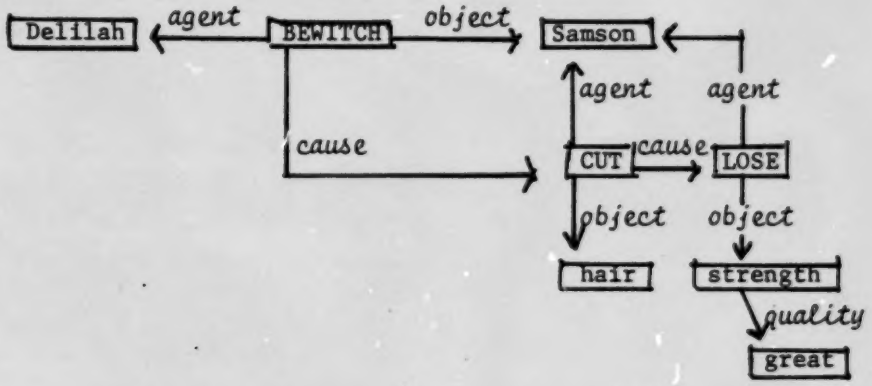
Insert Table 7 about here

Pearson and Johnson utilyze Lindsay and Norman's system in their development of semantic mapping as a comprehension device. Consider the following example from Pearson and Johnson:

(20) Because Samson was bewitched by Delilah, he cut his hair and lost his great strength.

This sentence generates the following semantic map:

(20a)



Utilization of case roles in semantic mapping as above has several advantages over case marking (diagramming) individual sentences and clauses. It allows for multi-relations (actions, causes, etc.) to be combined. This mapping also allows parts of the sentence (actors, etc) to be linked to more than one relation. And also, it allows for a clear representation of the main idea (referred to as "gist" by Pearson and Johnson).

Lindsay and Norman feel that semantic mapping represents human memory:

> The memory system is an organized collection of pathways that specify possible routes through the data base. . . . In principle, it is possible to start at any point in the data base and by taking the right sequence of turns through successive mazes, end up at any other point. Thus, in the memory system, all information is interconnected. (p. 400)

Joseph Grimes

In The Thread of Discourse (1975), Joseph Grimes adapts case grammar

to the analysis of longer discourses. His thesis is that "larger units of language can be partitioned into smaller ones according to a particular principle. (p. 101) This "particular principle" is an outline structure of the text which involves three general kinds of semantic units:

a. Role and case relationships

b. Lexical predicates (word meanings)

c. Rhetorical predicates (which unite lexical predicates and roles)

Going further, Grimes defines three specific relationships found in semantic role structure. These are 1) content, 2) cohesion, and 3) staging. Grimes defines content as the actual lexical meanings of the words in the text. Cohesion relates to what is being said at a given moment in relation to what has been said previously. Staging relates to the speaker's perspective on what is being said.

Thus, in defining the predicates of content organization--the relationship of arguments to predicates, Grimes uses role or case relationships. In proposing his case system for discourse analysis, Grimes includes three specific types of case forms: 1) Orientation roles: *object, source, goal, range,* and *vehicle;* 2) Process roles: *patient, material, result,* and *referent*; and 3) roles included in the agentive complex: *agent, instrument, force,* and *benefactive.* (See Appendix A)

Grimes' case system is used by B.J.F. Meyer in her semantic grammar of propositions. This grammar contains rules for combining ideas of a passage into a tree structure. Grime's case system is used to a great extent in Meyer's labeling system.

In addition to role relationships, Meyer's system identifies rhetorical predicates. These are not related to their arguments by specified roles. Their function in Meyer's system is to relate the overall organization of prose. *Evidence* and *Setting Time* are examples of rhetorical predicates. The reader is refered to Meyer's text for more detail in this area.

Carl H. Frederiksen

Perhaps the most abstract and intricate adaptation of case roles to discourse processing is seen in Frederiksen's model for representing knowledge structure. His model attempts to provide a semantic network from which speakers and writers can both general and analyze text. In addition, the model presents a system for the marking of discourse according to its inherent features.

Frederiksen's semantic structure codes stem from Chafe's taxonomy of objects and actions. His system for coding causal relations is based on Fillmore's cases and Chafe's relations of nouns to verbs (both already reviewed).

Unfortunately, it is not possible to review the Frederiksen article in the depth is justly deserves. One should note, however, how his model differs from those previously presented. First, the relationships specified in the system are defined without reference to linguistic productions. Second, the system consists of a logical network in addition to the semantic structure. Third, the system includes "algebraic" properties not normally associated with case systems; e.g., transitivity, symmetry. And fourth, the system allows for a "stohcastic element", i.e., statements such as may and might which may affect the truth value of the proposition. And finally, Frederiksen's system distinguishes between "symbolic" and "non-symbolic" objects and "cognitive" and "non-cognitive" actions.

As in Grime's system, Frederiksen uses case roles in labeling semantic relations. Also, Frederiksen's model includes three levels of case roles: 1) *Resultive actions: agent (cause), inanimate agent, instrument, animate affected object, inanimate affected object, prior state, result,* and *goal;* 2) *Processes: patient, inanimate patient, related animate object, related inanimate object, goal,* and *symbolic content (theme);* and 3) *Stative relations: part/whole, classification, attribution,* and *symbolic content.* (See Appendix A) It is important to note that Frederiksen includes some cases as animate or inanimate by definition. This is a significant difference from the other systems.

In summary, Frederiksen;s system is, perhaps, the most complete model available for discourse analysis; and, as previously stated, his case system is by far the most sophisticated. His article cited here is highly recommended.

Summary and Implications

So many cases, so many labels, so many names. But as asked in the opening quote, "What's in a name?"

In the literature reviewed, several authors (Grimes, Bruce, Moskey, Lindsay and Norman) have noted that there is no one "correct" or all inclusive case system. This is perhaps a strength of case theory. It is adaptable to a variety of conditions and analyses. And, although some would argue that case labels a mere subjective speculation, there seems to be agreement that case roles are applicable for the analysis of semantic structures. As such, case grammar theory has proved to be valuable in many areas. . .from linguistic analysis to composition teaching. This is significant; for in a time when "grammar" is taught less and less; and, comprehension skills are on the decline, case grammar may well be the

bridge between reading, writing, and thinking. Obviously, more applied research is needed in this area.

Grimes' view on divergence in case theory provides a fitting concluding remark:

> So far each linguist who has written on roles has come up with a different list of what standard role relationships are.... What is significant, however, is not that linguists disagree on what roles there are; The significant thing is that as studies of role systems continue there seems to be a convergence in the findings of different scholars. (p. 119)

". . .that which we call a rose. . .by any other name would smell as sweet."

References

Anderson, J. M. On case grammar - prolegomena to a theory of grammatical relations. London: Humanities Press, 1977.

Brown, R. A first language. Cambridge: Harvard University Press, 1973.

Bruce, B. C. Case systems for natural language. Bolt Beranek and Neuman, Incorporated: Advanced Research Projects Agency, April 1975. (NTIS NO. AD-A212 530)

Chafe, W. Meaning and the structure of language. Chicago: University of Chicago Press, 1970.

Chaika, E. A. Models of grammar and the pedegogical problem (Doctoral dissertation, Brown University, 1972). University Microfilms NO. 73-2243.

Chomsky, N. Syntactic structures. The Hague: Mouton, 1971.

Cook, W. A., S.J. Introduction to tagmemic analysis. New York: Holt, Rinehart, and Winston, 1969.

Fillmore, C. J. A case for case. In E, Bach and R. T. Harris (Eds.), Universals of linguistic theory. New York: Holt Rinehart and Winston, 1968.

Fillmore, C. J. and Lehiste, I. Working papers in linguistics, No. 2. Ohio State University, Columbus: Computer and Information Science Research Center, November 1968. (ERIC No. 026636)

Fink, S. Aspects of a pedegogical grammar--based on case grammar and valence theory. Tubingen, W. GER: Max Niemeyer Valag, 1977.

Frederiksen, C. H. Representing logical and semantic structure of knowledge acquired from discourse. Cognitive Psychology 7, 371-458 (1975).

Frederiksen, C.H. Semantic processing units in understanding text. In R. Freedle (Ed.), Discourse production and comprehension, volumn I. Norwood, NJ: Ablex Publishing Company, 1977.

Fries, C. The structure of English. New York: Harcourt, Brace & World, Inc., 1952.

Funk and Wagnalls. Standard handbook of prepositions, conjunctions, relative pronouns, and adverbs. New York: Funk and Wagnalls, 1953.

Grimes, J. E. The thread of discourse. The Hague: Mouton, 1975.

Hale, A. On the systemazation of box 4. in R. Brend (Ed.), Advances in tagmemics. Amsterdam: North Holland Publishing Company, 1974.

House, H. C. and Harman, S. E. Descriptive English grammar. Englewood Cliffs, NJ: Prentice Hall, Inc., 1933.

Jesperson, O. Essentials of English grammar. London: George, Allan & Unwin, LTD, 1960.

Lamb, P. Case grammar and the elementary school language arts curriculum? Paper presented at the Annual National Conference on Language Arts in the Elementary School (9th, Pheonix, AZ, April 22-24, 1977). (ERIC No.144 075).

Liles, B. L. An introductory transformational grammar. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1971.

Lindsay, P. H. and Norman, D. A. Human information processing. New York: Academic Press, 1972.

Meyer, B. J. F. Identification of the structure of prose and its implications for the study of reading and memory. Journal of Reading Behavior 7, 7-45 (1975).

Meyer, B. J. F. The organization of prose and its effects on memory. Amsterdam: North Holland Publishing Company, 1975.

Moskey, S. T. Semantic structures and relations in Dutch: an introduction to case grammar. Washington, DC: Georgetown University Press, 1979.

Pearson, P. D. and Johnson, D. D. Teaching reading comprehension. New York: Holt, Rinehart, and Winston, 1972.

Pike, K. L. and Pike, E. Grammatical analysis. Summer Institute of Linguistics, Inc. Arlington, TX: University of Texas Press, 1977.

Platt, J. Grammatical forms and grammatical meaning - a tagmemic view of Fillmore's deep structure case concepts. Amsterdam: North Holland Publishing Company, 1971.

Table 1

Traditional Noun Case Roles

Nominative (Subjective)	Possessive	Objective (Accusative)
(A) *Subject* (1) The *movie* has ended. (2) My *mother* lost her ring. (B) *Predicate Nominative* (3) I will be the *leader* of the party. (4) She was elected *president*. (C) *Direct Address (Vocative Case)* (5) *Robin*, may I use your car? (6) *Bill*, I think we are lost! (D) *Explanitory Modifier* (7) We, the *people* of the United States. . . . (8) This is Madison, the *capital* of Wisconsin. (E) *Nominative Absolute* (9) The *professor* being away, we had no class on Tuesday. (F) *Nominative by Pleonasm* (10) *Father, mother, sister, brother*--all are lost. (G) *Nominative of Exclamation* (11) *Heavens!* What a mess!	(A) *Possessive (Ownership)* (1) *Robin's* car is blue. (2) The *dog's* bone is lost. (B) *Subjective Genitive* (3) The *teacher's* late arrival delayed class. (3a) The late arrival of the teacher delayed class. (C) *Objective Genitive* (4) The audience applauded the *team's* performance. (4a) The audience applauded the performance of the team. (D) *Descriptive* (5) An *hour's* delay will ruin the game conditions. (6) I was given *two week's* vacation from the office.	(A) *Objective Complement-Direct Object* (1) He lost his *dog*. (2) She found the *puppy*. (B) *Objective Complement to Direct Object* (3) They consider her an *expert*. (4) They named the baby *Jennifer*. (C) *Object of the Preposition (See Table 3)* (5) One of the *children* is crying (6) The game was played in the *rain*. (D) *Explanatory Modifier* (7) We gave the assignment to our teacher, *Ms. Jones*. (E) *Adverbial Objective - Indirect Object* (8) Give *Sally* a drink of water. (9) They paid *John* a complement on his painting. (F) *Subject of an infinitive in objective position* (10) I want *Mary* to sing at the party. (G) *Objective Complement of an Infinitive whose Subject is in the Objective Case* (11) She wants me to be her *date*. (H) *Retained Object Complement--Object of a verb in the Passive Voice.* (12) She was taught *grammar*. (I) *Cognate Object* (13) Mary sang four *songs*. (J) *Object of a Verbal* (14) The man playing the *guitar* is my brother.

Source: Homer C. House and Susan Emolyn Harman. Descriptive English Grammar, 1933, pp. 28-33.

Table 2

Selected Noun Roles in Fries Structural Grammar

SUBJECTS

(A) PERFORMER - *everything that is linguistically grasped in the pattern of the performer*

(1) The *teacher* corrected the paper.
(2) The *table* tipped over.

(B) *"That which is identified"*

(3) My *wife* is the *director* of the play.
(4) The *tuba* seemed *out of tune*.

(C) *"That which is described"*

(5) Those *paintings* are *ugly*.
(6) Maybe *next summer* will be *better*.

(D) *"That which undergoes an action" or "That to or for which the action is performed"*

(7) All the *ladies* were given roses.
(8) The *flowers* were picked just before the storm.

OBJECTS

(A) *Direct Object - That which undergoes the action.*

(9) The teacher corrected the *paper*.
(10) Light the *fire* in the fireplace.

(B) *Indirect Object - That to which or for which an action is performed.*

(11) I can furnish *your assistant* with all the necessary tools.
(12) She wants to sell *my parents* the house.

(C) *Objective Complement - That which results from the action upon an undergoer.*

(13) The Republican party chose Reagan as *candidate*.
(14) We made the guest room a *nursary* when Sally was born.

(D) *Adverbial Object - That which is applied to Class 1 words [nouns] in the meaning "time", "place", or "manner".*

(15) Vacation begins the *end* of next week.
(16) How are you feeling *today*?

Table 3

Prepositional Relations

	TYPE	EXAMPLE
(1)	*Accompiment*	They are coming with us.
(2)	*Agency*	The novel was written by Steinbeck.
(3)	*Appeal*	The audience was entertained with music.
(4)	*Cause*	He resigned because of illness.
(5)	*Condition*	The nation is at peace.
(6)	*Degree*	He won the race by five feet.
(7)	*Destination*	They planned a trip to Colorado.
(8)	*Direction*	They went toward the village.
(9)	*Instrument*	He shaved with an electric shaver.
(10)	*Manner*	The rug was woven by hand.
(11)	*Measure*	The water rose little by little.
(12)	*Place*	They lived in France.
(13)	*Purpose*	She is studying for a doctorate.
(14)	*Source*	This wine comes from Italy.
(15)	*Time*	The plane landed at midnight.

Source: Funk and Wagnalls. Standard Handbook of Prepositions Conjunctions, Relative Pronouns and Adverbs.

Table 4

The System of Grammatical Levels

SENTENCE LEVEL	*Base + Intonation*
CLAUSE LEVEL	*Subject + Predicate + Object + Adjuncts*
PHRASE LEVEL	*Relater + Axis, and Endocentric Word Groups*
WORD LEVEL	*Stems + Derivations + Inflections*
MORPHEME LEVEL	*The ultimate level of analysis*

Source: Cook, Walter, S.J. Introduction to tagmemic analysis. New York: Holt, Rinehart, and Winston. 1969, p. 12.

Table 5

Clause Level Tagmemes Defined

NUCLEAR CLAUSE LEVEL TAGMEMES	
Subject tagmeme	Manifests the topic, or actor, or thing described. *Subject* may be obligatory or optional in the construction, and is often linked with a predicate by a cross-reference type of concord tie.
Predicate tagmeme	Manifests the type of action or serves as a link between the subject and its attribute. *Predicate* is obligatory in all clause constructions except the equational type construction.
Predicate attribute	Manifests an attribute of the subject by a nominal, adjectival, or adverbial word group. It is linked to the subject by a linking verb and an agreement type of concord. It is always obligatory.
Object tagmeme	Completes the meaning of the predicate, and often is case governed by the predicate in a government type concord tie. *Objects* may be specified as *direct object; indirect object;* or *object complement*, in structures which take two objects.
PERIPHERAL CLAUSE LEVEL TAGMEMES	
Location tagmeme	Answers the question *where* and places the verbal action in a place setting. The fillers of this slot are adverbs of place and their substitutes.
Temporal tagmeme	Answers the question *when* and places the verbal action in a time setting The fillers of this slot are adverbs of time and their substitutes.
Manner tagmeme	Answers the question *how* and fills in the details of the circumstances of the action. The fillers of this slot are adverbs of manner and their substitutes.
Introducer tagmeme	Introduces a clause and occurs almost always in the initial position. . . .Introducers may turn out to be *temporals*. . . .

Source: Cook, pp. 67-68.

Table 6

Becker's Grammatical Meanings for the Subject Tagmeme

(A)	Subject as *Agent*	
	(1)	*John* runs in the park every morning.
	(2)	*One* of them came.
(B)	Subject as *Proposition*	
	(3)	*There is no doubt that John* is frightened.
	(4)	The *idea* amuses me.
(C)	Subject as *Instrument*	
	(5)	A *stone* struck Bill.
	(6)	The *key* opened the door.
(D)	Subject as *Goal*	
	(7)	The *typewriter* works fine.
	(8)	*Bill* was hit by John.
(E)	Subject as Time	
	(9)	*1957* was a good year.
	(10)	*Sunday* passed quickley.
(F)	Subject as *Location*	
	(11)	The *south side* is warmer.
	(12)	*Madison* is a nice place to live.
(G)	Subject as *Quality*	
	(13)	His *eagerness to please* is embarrassing.
	(14)	*Kindness* killed the cat.
(H)	Subject as *Nexus*	
	(15)	*For John to be frightened* is ridiculous.
	(16)	*Even to begin* is to fail.
(I)	Subject as *State*	
	(17)	*Being cold* is no fun!
	(18)	*Our being married at home* bothered my mother.
(J)	Subject as *Act*	
	(19)	*Constructing the building* took all summer.
	(20)	*Playing tennis* is fun.
(K)	Subject as *Motion*	
	(21)	*Walking* is healthy.
	(22)	*Dancing with Mary* is a priviledge.

Table 7

The Parts of an Event

Action	The event itself. In a sentence the action is usally described by a verb. The man was *bitten* by the dog.
Agent	The actor who has caused the action to take place. The man was bitten by the *dog*.
Conditional	A logical condition that exists between two events. A shark is dangerous *only if* it is hungry.
Instrument	The thing or device that caused of implemented the event. The *wind* demolished the house.
Location	The place where an event takes place. Often two different locations are involved, one at the start of the the event and one at the conclusion. These are identified as <u>to</u> and <u>from</u> locations. *From the University*, they hitchhiked *to the beach*.
Object	The thing that is affected by the action. The wind demolished the *house*.
Purpose	Identifies the purpose of the event. Jack took Henry to the bar *to get him drunk*.
Quality	A descriptor, one that modifies a concept. The surf was *heavy*.
Recipient	The person who is the receiver of the effect of the action. The crazy professor threw the blackboard at *Peter*.
Time	When an event takes place. The surf was up *yesterday*.
Truth	Used primarily for false statements. I do *not* like you, Hubert.

Source: Lindsay and Norman, p. 397.

APPENDIX A

COMPARATIVE CASE SYSTEMS

FILLMORE - 1968		FILLMORE - 1971		CHAFE - 1970	
Agentive	Typically animate perceived instigator of the action identified by the verb. *Bill* played the guitar.	*Agent*	The instigator of an event. *Bill* drove the car.	*Patient*	Someone or something either in a given state or suffering a change in state. The *wood* is dry. He cut the *wood*.
Instrumental	Inanimate force or object causally involved in the action or state identified by the verb. The *key* opened the lock.	*Counter/ Object*	The force or resistance against which the action is carried out. Bill drove the *car*.	*Agent*	Someone or something which causes or instigates an action or process. Usually animate but not always, an agent must be perceived to have its own motivating force. *Harriet* sang. The *wind* ripped the drapes.
Dative	Animate being affected by the state or action identified by the verb. *Robin* was sure she would win.	*Object*	The entity that moves or changes or whose position or existence is in consideration. The *door* opened.	*Experiencer*	Someone having a given experience or mental disposition. *Tom* saw the snake. *Tom* wanted a drink.
Factitive	The object or being result-from the action or state identified by the verb, or understood as part of the meaning of the verb. The rain changed *our picnic plans*.	*Result*	The entity that comes into existence as a result of the action. Robin baked a *cake*.	*Beneficiary*	Someone who profits from a state or process, including possession. *Mary* has a 280-Z. This is *Mary's* car.
Locative	Identifies the location or spacial orientation if the state or action identified by the verb. She's gone to *school*.	*Instrument*	The stimulus or immediate physical cause of an event. The *hammer* broke the window.	*Instrument*	Something that plays a role in bringing about a process or action but is not the instigator; it is used by an *agent*. Tom opened the door with a *key*. Tom used a *knife* to open the can.
Objective	The semantically neutral case, anything represented by a noun whose role in the action or state identified by the verb is identified by the semantic interpretation of the verb itself. He totaled his *car*.	*Source*	The place from which something moves. The baby robins left the *nest*.	*Complement*	The verb names an action that brings something into existence. The complement completes the verb. Mary sang a *song*. John played *checkers*.
		Goal	The place to which something moves. We went to *Arizona* last year.	*Location*	The place or locus of a state action, or process. Tom sat in the *chair*. The spoon is in the *box*.
		Experiencer	The entity which receives or accepts or experiences or undergoes the effect of an action. The *player* was carried from the field.		

Sources: Fillmore, C.J. "A CASE FOR CASE" in Bach and Harms, Universals in Linguistic Theory

Bruce, B.C. Case systems for natural language. NTIS #AD-A012 530

Brown, R. A First Language

COMPARATIVE CASE SYSTEMS - CONTINUED

CHAIKA - 1972

Agent — The animate cause of the action stated by the verb.
John rolled the ball.

Causative — The inanimate cause of the action stated by the verb.
The *wind* rolled the ball.

Nominal — The subject is neutral as to cause; i.e., the cause of the action stated by the verb is unspecified.
The *ball* rolled.

Object — The receiver of the action stated by the verb. The cause is implied.
The *ball* was rolled.

Instrumental — The inanimate object or force with which the action of the verb is carried out.
The window was broken with a *hammer*.
The *hammer* broke the window.

Locative — Defines the location of the verbal action.
The *garden* swarmed with bees.

Range — Defines the limits or extent of the action.
He jumped the *wall*.

Dative — The case of the being or thing to or toward which the action of the verb is directed.
I gave the *matter* some thought.
Mary gave *John* a drink.

Beneficiary — The being or thing that an action was done for.
I promised *John* a drink of water before bed.

GRIMES - 1975

ORIENTATION ROLES

Object — Identifies the thing that is moving in the dynamic case, or that is in a particular position in the static case.
Water flows downhill.
The *lamp* is on the table.

Source — Identifies the location of the object at the beginning of the motion, the initial boundary of the event.
The letter fell from her *hand*.

Goal — Identifies the location of the object at the end of the motion, the terminal boundary of the event.
The letter fell to the *floor*.

Range — In motion, the path or area traversed. In position, the static location.
The ball rolled down the *gutter*.
The lamp is on the *table*.

N.B. *range* is the only role used with ambient (meteorological) predicates.
Ithica is cold in January.

Vehicle — Refers to something that conveys the object and moves along with it.
The letter came by *plane*.

PROCESS ROLES

Patient — Relation between a thing that gets changes and the process that changes it; or, the relation between a thing that is in some state and the state it is in.
The *snowflake* melted.
The *snowflake* is white.

PROCESS ROLES, continued.

Material — The state of something before it undergoes a process.
She makes dresses from *flour sacks*.

Result — The state of something after it undergoes a process.
She makes flour sacks into *dresses*.

Referent — Distinguishes the the limitation of a process to a certain field or object.
We talked about *politics* in school today.

AGENTIVE COMPLEX

Agent — Identifies who is responsible for the action. (Animate)
My *wife* baked a cake.

Instrument — The tool used in performing an action. (Inanimate)
The *snowplow* cleared the tracks.

Force — The noninstigative cause of an action.
Malaria killed the girl.

Benefactive — The someone or something on whom an action has a secondary effect.
We chased the cats out of the attic for *Mrs. Johnson*.

Sources: Chaika, E.O. Models of Grammar and the Pedagogical Problem,
Grimes, Joseph. The Thread of Discourse

COMPARATIVE CASE SYSTEMS - CONTINUED

FREDERIKSEN - 1975

RESULTIVE ACTIONS

Agent — Immediate animate cause of an action resulting in a change. [AGT]*

The *man* wrote the letter.

Inanimate Agent — Immediate inanimate processive cause of an action resulting in a change. [I-AGT]

The *wind* broke the window.

Instrument — Immediate object involved causally in a resultive action caused by an agent. [INST]

The man wrote a letter with a *pen*.

Animate Affected Object — Immediate animate object affected by (undergoing change as a result of) a resultive action. [DAT1]

The man killed the *bear*.

Inanimate Affected Object — Immediate inanimate object affected by (undergoing change as a result of) a resultive action. [OBJ1]

The man broke the *window*.

Prior State or Event — State or process immediately prior to an action resulting in a change in the process or state. [SOURCE]

The man walked from the *door*.

Result — Physical state or process immediately resulting from a physical action. [RESULT]

The man walked to the *gate*.

Cognitive process immediately resulting from a cognitive action. [RESULT+PAT+THEME2]

The child knows the *alphabet*.

RESULTIVE ACTIONS - *continued*

Result-cont — Symbolic object immediately resulting from a physical action. [RESULT+THEME1]

The man wrote a *book* about China.

Goal — Immediate future state or event towards which a resultive action caused by an animate agent is durected. [GOAL]

The man broke the window *to replace the cracked glass*.

PROCESSES

Patient — Immediate animate object undergoing a change associated with a cognitive or physical process. [PAT]

The *boy* plays baseball.

Inanimate Patient — Immediate inanimate processive object undergoing change associated with a physical process. [I-PAT]

The *plant* grows.

Related Animate Object — Immediate animate object related to a relative process. [DAT2]

John likes *Alice*.

Related Inanimate Object — Immediate inanimate object related to a relative process. [OBJ2]

The man rode a *horse*.

Goal — Immediate future state or event towards which a process having an animate patienr is directed. [GOAL2]

The man jogs *to lose weight*.

Symbolic Content (Theme) — Symbolic content of a cognitive process. [Theme2]

The king believed *that the world was flat*.

STATIVE RELATIONS

Part/Whole — The right object set is part of the left object set. [HASP]

The bird has *wings*.

Classification — Set of objects which is connected to one or more other objects classes. Includes a) *Transitive class* [ORD-CAT], b) *Intransitive class* [P-CAT], c) *Nominal class* [CAT], and d) *Identity* [IDENT].

a) John is a *sargent*.
b) John is a *cousin* of mine.
c) A robin is a *bird*.
d) John is the *teacher*.

Attribution — The measured attribute is a property of the members of the object set. Includes a) *Transitive ± distance ± determinate* [EXT0], [EXT1], and [ORD-ATT], b) *Intransitive Nonmetric Attribute* [P-ATT], and c) *Nominal Attribute* [CAT-ATT].

a) John is *six feet tall*.
a) John is *tall*.
a) John is related to *Bill*.
b) John is married to *Alice*.
c) The man is *German*.

Symbolic Content — The right object is symbolically linked to the left object set. [Theme1]

The ballet is about a beautiful *swan*.

Note: This does not represent all of Frederiksen's system. These labels are the ones which relate most readily to the previously presented (Fillmore and others).

*Frederiksen's Notation

Source: Frederiksen, Carl H. Representing Logical and Semantic Structure of Knowledge Acquired from Discourse. COGNITIVE PSYCHOLOGY 7, 371-458 (1975).

Michael P. French - 1981